

Remarks/Arguments

Please reconsider the application in view of the above amendments and the following remarks.

Examiner Interview

Applicant's attorney of record had a telephone interview with examiner George Wang on May 22, 2003. After that telephone interview, applicant was under the impression that the examiner recognized the distinctions between the Falkenstein patent and the claimed invention. Per examiner Wang's suggestion, applicant filed a Request for Continued Examination (RCE) with a clarifying amendment. Although applicant understands that the amended claims were subject to a new search and consideration, the newly applied Patterson patent does not overcome the deficiencies that the examiner seemed to acknowledge in the interview on May 22, 2003. Applicant addresses both the Falkenstein and Patterson patents in greater detail below.

Disposition of Claims

Claims 1-9, 21 and 22 stand rejected. Claims 1, 4, 9 and 21 have been amended. Claims 23-26 have been added. Claims 1-9 and 21-26 are pending.

Rejections under 35 USC §103

Claims 1, 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,707,066 to Falkenstein, et al. ("Falkenstein") in view of U.S. Patent No. 5,644,673 to Patterson ("Patterson"). Claims 2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falkenstein and Patterson in view of U.S. Patent No. 5,613,031 to Tanabe, et al. ("Tanabe"). Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falkenstein, Patterson and Tanabe in view of U.S. Patent No. 4,657,346 to Berry, et al. ("Berry"). Applicant traverses these rejections.

The Office has failed to establish a *prima facie* case of obviousness because Falkenstein and Patterson, even when combined, fail to teach or suggest all of the claimed limitations. See MPEP 2143. Neither Falkenstein, nor Patterson, disclose or suggest a plurality

of optical fibers extending through a gas blocking device and a sealing material contained in the gas blocking device and hardened around the optical fibers such that a seal is created to prevent gas from passing through and such that the optical fibers reinforce the sealing material, as recited in amended independent claim 1.

The Office action mischaracterizes the disclosure in Falkenstein by stating that “Falkenstein discloses... a gas blocking device made of hot melt glue (col. 1, lines 65-67) and creates a seal that prevents water and gas from passing through the fiber holder (col. 3, lines 48-50).” In column 1, lines 65-67, Falkenstein refers to an adhesive used to glue a single glass fiber to a block close to the diode D. In column 3, lines 48-50, Falkenstein refers to a seal created by the opaque cover K, not a seal created by the glue. Neither of these references to Falkenstein disclose a gas blocking device attached to an optical fiber holding tube and containing a sealing material hardened around optical fibers.

To clarify the claimed invention, applicant has amended claim 1 to recite a gas blocking device comprising “a fiber containing body having a passageway and a sealing material contained in said passageway and hardened around said optical fibers within said passageway.” Falkenstein does not disclose or suggest such a structure. Falkenstein merely describes the use of a glue to secure the fiber to the tube R. See Falkenstein, col. 9, lines 18-22. Falkenstein also states that the glass fiber is firmly surrounded by the tube R. See Falkenstein, col. 2, lines 63-65. Thus, the tube R cannot contain a sealing material hardened around a plurality of fibers.

Moreover, Falkenstein never suggests the desirability of providing a plurality of optical fibers through a single tube or gas blocking device. The Office action asserts that it would have been obvious “to have specified the use of a plurality of optical fibers since one would be motivated to conduct modulated light pulses with information not to just one but multiple receiver modules (Falkenstein, col. 1, lines 14-20) for improved distribution of optical data and transmission efficiency.” The Office action also states that Falkenstein “ascribes to the use of a plurality of optical fibers when it discloses that ‘the present invention was particularly developed for... systems with glass fibers.’” Although Falkenstein may refer to “fibers” and “modules” in plural, this reference alone is not enough to suggest the desirability of a plurality of fibers extending through a single tube and gas blocking device with a sealing material hardened around the fibers to create a seal.

Even if Falkenstein suggests the use of a plurality of optical fibers and even if it would improve distribution of optical data and efficiency, it would not have been obvious for the tube R disclosed in Falkenstein to hold the plurality of fibers. The glass fiber bushing disclosed in Falkenstein appears to be designed specifically for a single glass fiber to allow the glass fiber tip S to be precisely adjusted. See Falkenstein, col. 5, lines 62-68. Modifying the tube R to accommodate a plurality of fibers would likely render the glass fiber bushing disclosed by Falkenstein unsatisfactory for its intended purpose and thus would not have been obvious. See MPEP 2143.01. To accommodate a plurality of optical fibers according to the teachings of Falkenstein, a plurality of glass fiber bushings would be required with each having a single fiber extending through a single tube R. Such a modification would not result in the claimed invention, which comprises a gas blocking device including sealing material hardened around a plurality of fibers.

The newly applied patent to Patterson also does not disclose or suggest a gas blocking device including a sealing material hardened around a plurality of fibers. Patterson is relied on by the Office as disclosing “an optical fiber cable with a plurality of optical fibers that are also strength members (fig. 2a, ref. 218).” Patterson merely discloses a fiber optic cable 18, 218 including a plurality of optical fibers surrounded by longitudinal strength members 22, 222 made of KEVLAR. See Patterson, col. 2, lines 10-15. Patterson does not teach the use of optical fibers as strength members. In fact, Patterson suggests otherwise by surrounding the optical fibers with the KEVLAR longitudinal strength members 22, 222. Moreover, Patterson does not disclose or suggest a gas blocking device containing a sealing material hardened around the optical fibers such that the optical fibers act as strength members to reinforce the sealing material.

In the present claimed invention, providing the sealing material hardened around the optical fibers in the gas blocking device not only seals the device but also provides reinforcement because the fibers reinforce the sealing material similar to reinforced concrete. In doing so, the present invention prevents cracking or other damage to the material and subsequent damage to the optical fibers. See present specification, page 7, lines 23-26, and page 8, lines 1-3. Neither Falkenstein, nor Patterson, disclose or suggest a gas blocking device with the combination of a

sealing material hardened around a plurality of optical fibers in a way that creates a seal and that provides reinforcement.

For the reasons stated above, applicant submits that independent claim 1, and all claims dependent therefrom, would not have been obvious.

With respect to claim 4, the Office action refers to element W as a fiber organizing insert. Falkenstein, however, states that element W is a wall opening. See Falkenstein, col. 6, line 1. Thus, Falkenstein does not disclose a fiber organizing insert including a plurality of fiber receiving holes. Moreover, the device in Falkenstein does not need a fiber organizing insert including a plurality of fiber receiving holes because Falkenstein only discloses a single fiber passing through the tube R. As mentioned above, even if a plurality of optical fibers were provided, each fiber would pass through a single tube R.

With respect to claim 6, the Office action states that the passageway for the fiber is conical with a wide and narrow portion and tapering middle section and refers to Fig. 1 of Falkenstein. Here, the Office action appears to be suggesting that element T in Falkenstein is the gas blocking device. However, element T is an adjustment member and the tube R passes completely through the adjustment member T. Thus, element T is not a gas blocking device attached to an end of an optical fiber holding tube, as recited in independent claim 1. Element T also does not contain a sealing material hardened around optical fibers to create a seal, as recited in independent claim 1.

With respect to claims 5 and 7, the Office relies on Tanabe to teach the locking member and fiber organizing insert made of a substantially non-compressible material. The ring 23 disclosed in Fig. 1 of Tanabe, however, does not secure a fiber organizing insert. Because Tanabe also discloses only a single fiber 21, there is no need for a fiber organizing insert including a plurality of fiber receiving holes each receiving respective fibers. Moreover, the ring 23 could not be mounted on the flexible membrane M disclosed in Falkenstein, as suggested in the Office action. Furthermore, Tanabe teaches away from using this ring 23 in column 2, lines 13-17.

Because the examiner has failed to show that the prior art references, when combined, teach or suggest a plurality of optical fibers and a gas blocking device containing a sealing material hardened around the optical fibers, the Office has failed to establish a *prima facie* case

of obviousness with respect to independent claim 1 and all claims dependent therefrom. Dependent claims 4-7 are separately patentable for the reasons discussed above. Accordingly, applicant requests that the rejection under 35 U.S.C. §103 be withdrawn.

Information disclosure statement

An information disclosure statement (IDS) with a form PTO-1449 was filed on January 25, 2001 with the above-identified application, but the form PTO-1449 has not been returned with the examiner's initials indicating that the cited references have been considered. Applicant requests that the initialed form PTO-1449 be sent with the next office communication.

New Claims

New claims 23-26 have been added to define a method of passing optical fibers into a pressurized housing using the optical fiber device recited in claims 1-9, 21, and 22. Applicant submits that claims 23-26 are not anticipated or obvious over the prior art for the same reasons stated above with respect to independent claim 1.

Conclusion


The claims have been shown to be allowable over the prior art. Applicant believes that this paper is responsive to each and every ground of rejection cited by the Examiner in the Action dated July 23, 2003. Accordingly, applicant respectfully requests favorable action in this application.

The applicant herewith petitions the Commissioner of Patents and Trademarks to extend the time for reply to the Office action dated July 23, 2003 for one (1) month. Please charge deposit account number 50-0309 (Reference Number Girzone 2), in the amount of \$110 to cover the cost of the extension.. Any deficiency or overpayment should be charged or credited to the above numbered deposit account.

The examiner is invited to telephone the undersigned, applicant's attorney of record, to facilitate advancement of the present application.

Respectfully submitted,

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